**AS Unit 1: Basic Biochemistry and Cell Organisation**

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| Name: | Date: |

**Topic 1.3 Cell Membranes and Transport – Page 3**

l. **Osmotic Relationships of Cells**

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|  |  | Completed |
| 1. | Read through 1.3g Cell Membrane Notes and Complete the tasks   1. Define the term **‘diffusion*’.*** Use the term **electrochemical** **gradient** in your description. 2. Across which parts of the membrane do the following molecules / ion diffuse? Explain your answers.  * Oxygen * Carbon dioxide * Glucose * Amino acids * Sodium and potassium ions  1. Explain how the following affect the rate of diffusion: concentration gradient, temperature, lipid solubility and the size of the molecule 2. Distinguish between diffusion and facilitated diffusion 3. Explain the terms ‘isotonic’, ‘hypertonic’ and ‘hypotonic’. 4. What is the water potential of pure water and how does this compare to a solution? 5. Define the term osmosis using the term water potential in your definition. 6. Define the term ‘active transport’. 7. List the differences and similarities between active transport and facilitated diffusion. 8. A cell carrying out active transport would show what features? 9. What factors could affect the rate of active transport? 10. Draw a diagram illustrating phagocytosis. 11. Distinguish between endo and exocytosis. 12. With examples explain the difference between phago and pinocytosis. |  |
| 2. | Read 1.3h Water Potential  For animal and plant cells explain what happens when they are placed in:  Hypertonic  Isotonic  Hypotonic solutions |  |
| 4. | Complete the cell transport quiz. |  |